TANNOY 'MONITOR GOLD' LOUDSPEAKER IN 'LANCASTER' ENCLOSURE

Manufactured by Tannoy Products Ltd., West Norwood, London, S.E.27.
Price: 15 in. Monitor Gold Dual Concentric Loudspeaker, with crossover network: £40. Fitted in Lancaster cabinet [rectangular or corner]: £60.
Manufacturer's specification (Unit): frequency response: 30–20,000 Hz. Power handling capacity: 15 in.: 15 watts. 12 in.: 30 watts. III LZ.: 15 watts. Impedance: 8 ohms nominal; 5 ohms minimum.

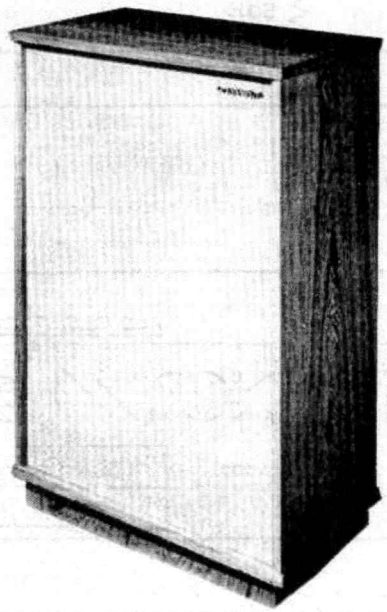
A few months ago the technical audio Press had an opportunity of examining and listening to the latest version of the Tannoy Monitor Dual Concentric loudspeaker christened the Monitor Gold Dual Concentric, as the large magnet is covered by a gold enamelled pot. It impressed us then, and the improved performance, coupled with the additional facilities provided by the roll-off and energy controls have proved such an attraction to the export market in the Commonwealth, Europe and the United States, that sales have trebled in the last four months.

The 15 in. Monitor Gold units, type LSU/HF/158, sent to us for review were fitted into two 'Lancaster' enclosures, as illustrated. This high-quality loudspeaker unit has remained unchanged in basic conception for some 21 years, and in detail for the last 7 years, and the latest technical refinements will again remain intact until any modifications can be proved really worthwhile. This is the way the Tannoy organization works and the years have shown its efficacy, as many Tannoy loudspeaker designs, including the big dual-throated 'Yorks', have been used for professional monitoring applications in recording and broadcasting studios. In fact one of us (D.P.) fitted the original Dual Concentrics in his design of 'Expert Masterspeakers' many years back, and both of us have used the 12 in. Monitor in column type enclosures, always providing a most satisfactory performance. The technical quality is clean and crisp consistent with a very wide frequency range.

The principle of the Tannoy Dual Concentric is to have two separate moving-coil systems for treble and bass with one magnet providing the gap flux for the two systems. The bass coil is driven in the usual way from the front of the magnet, but the treble coil is mounted at the back of the magnet attached to a diaphragm for reproducing high frequencies. The centre magnet pole is machined out to form a small logarithmic horn to pressure load the HF diaphragm. The bell or mouth of the horn is further extended by the bass diaphragm, which is also logarithmically tapered. An excellent crossover unit blends the responses to give a smooth middle characteristic. It appears that this type of design has one major advantage over two or more separate units mounted apart, where it can be said that each unit has its own path of sound to the ear, which is apparent when close to this arrangement of units. This effect does not occur with the Tannoy Dual Concentric and so seemingly it must suffer from less phase distortion, which may well account for the very clean treble available from the Monitor.

The 15 in. Monitor Gold is a heavy unit possessing a rugged frame and large magnet, all having a superb finish including the gold enamelled pot, as already mentioned. A moulded fibre cone is used for the bass diaphragm, whose shape and material makes it rigid to prevent flexing.

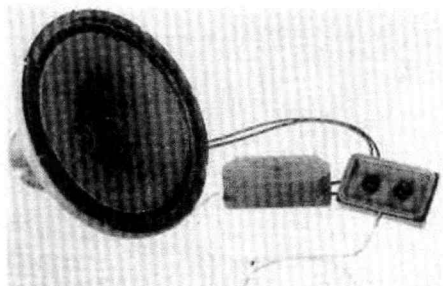
The enclosure of the 'Lancaster' version is an infinite baffle—described as 'aperiodic'—and is big enough to give good bass response, but the cabinet is not so large as to dominate a living room. Measurements are $33\frac{1}{2} \times 21\frac{1}{2} \times 12\frac{1}{2}$ ins., plus a 2 in. plinth. The construction is robust and heavy, as the timber is 11/16 in. blockboard for all sides and back, with the front panel made of $\frac{1}{2}$ in. mahogany plywood. Internal sides and back panels are covered in thick upholstery, heavy enough completely to cover the crossover unit fixed to the back. A lead from the crossover network plugs into the side of the loudspeaker unit and two controls for adjusting response are also attached to the back, but



are adjustable from the outside. The 15 in. unit is mounted as a direct radiator facing forwards.

In appearance the cabinet is most pleasing to the eye. Our samples are in oiled teak and the customary sharply defined outline for this familiar type of rectangular enclosure has been moderated by the top and bottom overlapping the sides. Dark fawn fabric completely covers the front except where it is framed by the thickness of the wood.

Many hours of listening to a pair of these enclosures on all kinds of input material—from radio, disc records and tapes—has resulted in no aural fatigue or offence to the ears. The response in both directions is well extended offering a clean bright sound quality. The two controls provided for treble adjustment (termed roll-off) and power (termed energy) are invaluable in tailoring the sound to suit the listener. The roll-off control affects the extreme top response mostly, and the power controls more the middle range output which enables the extent of 'brightness' to be adjusted.



Tannoy 'Monitor Gold' Dual concentric loudspeaker with treble roll-off and energy controls.

The polar distribution or directivity pattern of the upper frequencies of this loudspeaker is wide and, in fact, is one of the best we have ever tested. Angling the loudspeakers inwards to each other produced a good stereo sound picture spread, with little loss of treble radiation. Speech and bass tonal quality exceptionally good and free from boominess, with the deep bass notes impressively reproduced.

Instrument checks revealed a response from below 25 Hz. to 20 kHz. and the lowest frequency was audible without driving the loudspeaker very hard. Both middle and lower end of the spectrum provided uniform response without any obvious resonances, and only by heavy power inputs could the cabinet resonance be slightly excited at some low frequencies. The waveform is good at all frequencies, as seen on the oscilloscope, with no signs of frequency doubling in the bass register. Measurements confirmed our appreciation by ears of the admirable polar distribution and we found the high-frequencies were well maintained at considerable distances from the source. Crossover is at 1 kHz.

Treble control has little effect above 10 kHz. or below 1 kHz. It has a 5-position switch on which the control position is marked 'level'. This response control measured as follows:

Hz.	*db.*
8 kHz.	−3
6 ,,	−4
3 ,,	−5
2 ,,	−5
1 ,,	−2.5

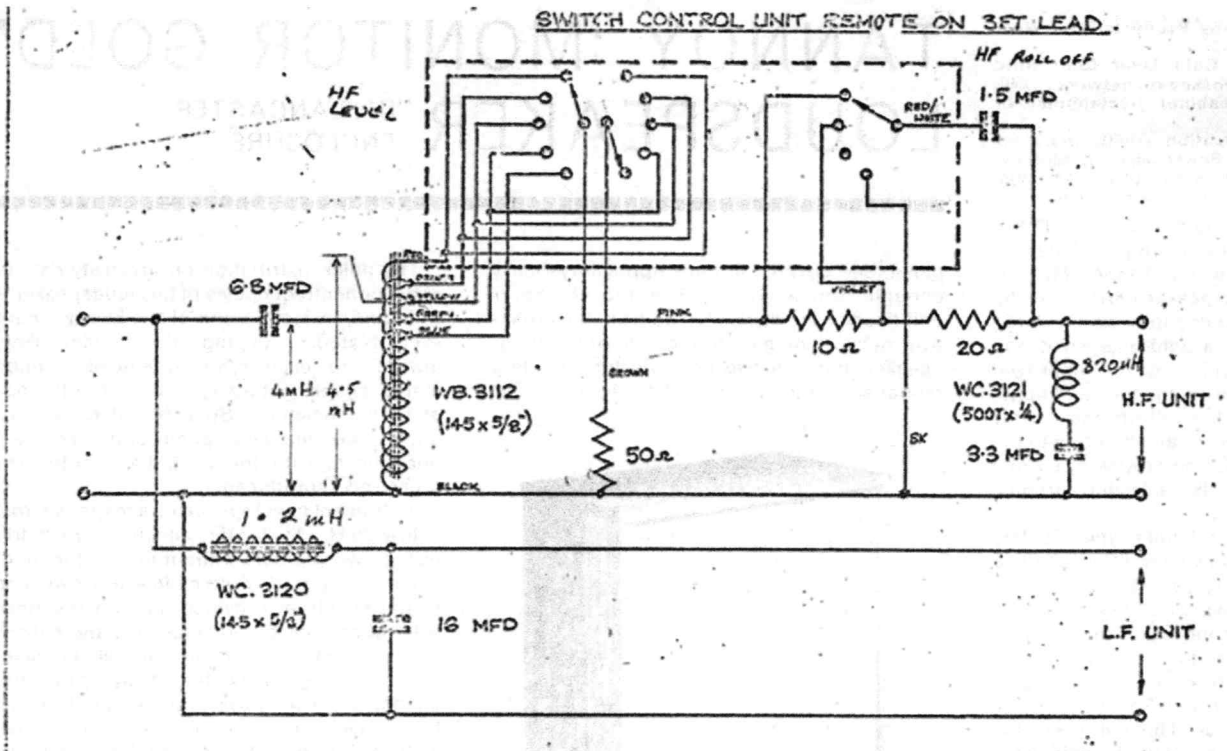
These cuts are most effective for adjusting brightness or sibilance. *Treble Roll-Off* position has little result below 10 kHz. This control is a 4-position switch with 'level' at one end and provides the following degrees of 'cut' at maximum:

kHz.	*db.*
10	−3
12	−3
15	−5
20	−8

SUMMARY: By any standard of evaluation the Tannoy Monitor Gold loudspeakers, with their co-axial units in a sophisticated format, must be considered a superior product capable of a first-class performance that will please the most fastidious listener. The Treble Roll-Off and Treble Energy Control are not just gimmicks but enable the user to make the best of given inputs to suit personal aural tastes and room conditions. Beautifully made, traditional type cabinet, which is unobtrusive yet large enough to develop convincing bass radiation. We confidently recommend these Tannoy speakers (whether in 'Lancaster' free-standing or corner mounting enclosures) without any reservations.

One small niggle, however. One of the pair of units sent to us failed to work due to the leads not making contact in the connector at the back. To ensure a proper and safe connection we had to move the connector closer to the lead. In our view a loudspeaker of this top class deserves a better and simpler type of connector.

DAVID PHILLIPS and DONALD ALDOUS



IMPORTANT
THE CONTENTS INFORMATION AND COPYRIGHT OF THIS DOCUMENT ARE THE SOLE PROPERTY OF TANNOY LTD. AND MUST NOT BE USED, PUBLISHED, APPLIED OR COPIED WITHOUT THE PRIOR WRITTEN CONSENT AND PERMISSION OF THE OWNERS.

TANNOY

WEST NORWOOD
LONDON
ENGLAND

Used on:-
15" MONITOR GOLD
12" MONITOR GOLD

Drawn: R&R Date: 25-5-67
Traced: Date: 13-7-67
Checked: Date:
Material PL. 3345

Scale:-
Finish:-

CROSSOVER UNIT FOR
LSU/HF/15/8. & LSU/HF/12/8

Drawing No.
B.29898

XT/418/G

www.hilberink.nl/oudehaens/tannoy6.htm